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A47L 13/08

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(56) Documents Cited

GB 2248207 A

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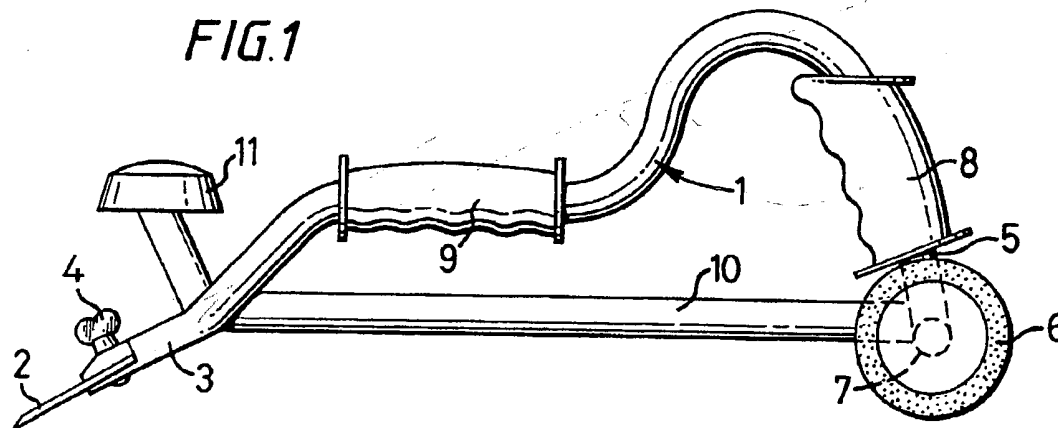
(58) Field of Search

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(54) Hand-held tools

(57) The frame 1 of a hand-held tool having a scraper blade 2 projecting from its forward end 3, is carried at the rear end 5 on a pair of spaced, axle-mounted wheels 6 that give stability to the tool together with a constant inclination of the blade 2 to the work surface. A hand-grip 8 on the rising rear end 5 facilitates the application of hand pressure for urging the wheels 6 and blade 2 along the surface, whereas a horizontal grip 9 and palm-pad 11 enable pressure to be applied urging them hard onto the surface. A strut 10 extends across the tool between the ends 3 and 5 to strengthen the frame 1. Blade 2 is detachable and a number of different shaped blades (figs 3 - 7) may be used.



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FIG. 1

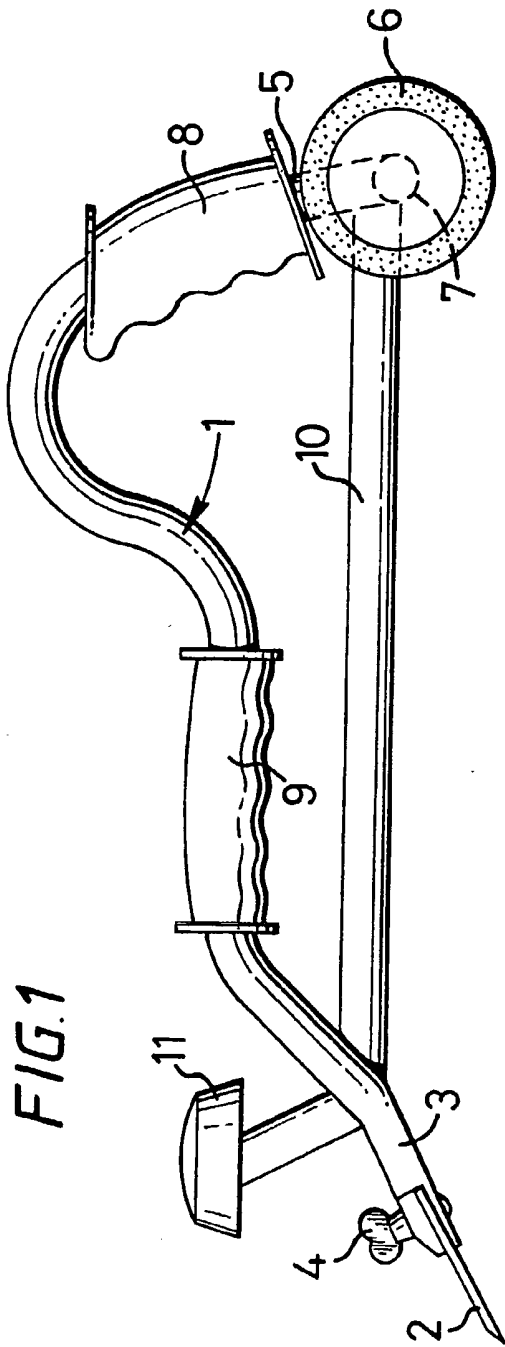
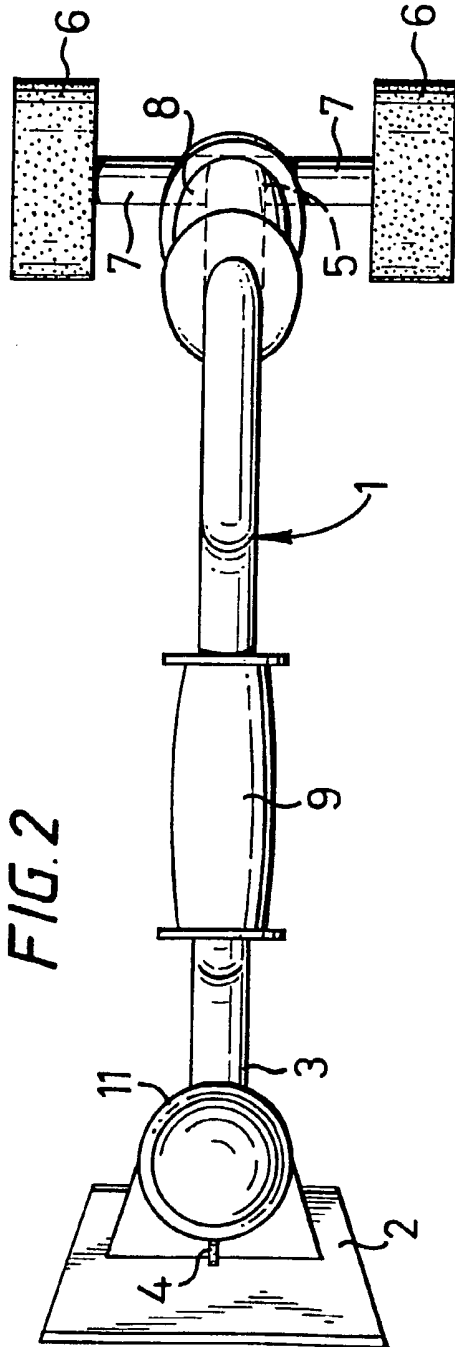


FIG. 2



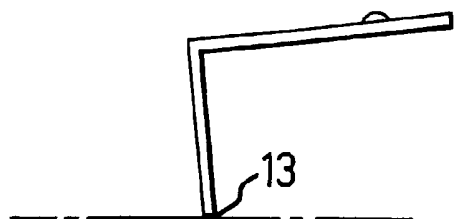


FIG. 3

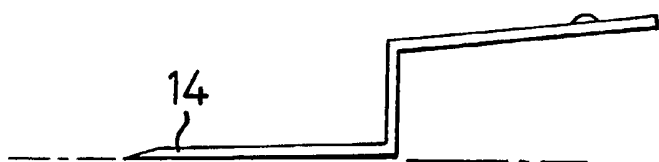


FIG. 4

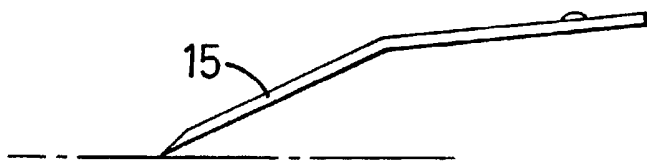


FIG. 5



FIG. 6

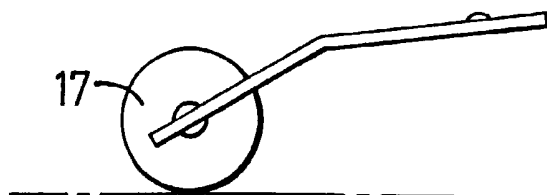


FIG. 7

## Hand-Held Tools

This invention relates to hand-held tools, and is particularly concerned with hand-held tools for use in operations of surface-preparation and/or -finishing.

According to the present invention there is provided a hand-held tool for use in an operation of surface-preparation and/or -finishing, wherein an elongate frame for carrying at one end a blade or other element for effecting said operation, is mounted at its other end on one or more wheels or rollers such that by applying hand pressure to the frame to urge the one or more wheels or rollers onto a work surface and to run along that surface, the blade or other element is urged against and along said surface at a substantially constant angle.

The tool of the present invention has the advantage that the blade or other element can be held firmly while being tracked over the work surface, and that the pressure with which it contacts the surface and tracks along it can be readily controlled by hand.

The frame, which may be of metal-tube or plastics, may have a first part that extends upwardly from the one or more wheels or rollers at the said other end and leads into a second part which extends generally downwardly from the first part to said one end. A hand-grip may in these circumstances be provided on said first part of the frame for use in applying hand pressure to urge the tool along the work surface. Hand pressure for urging the blade or other element, and the one or more wheels or rollers, onto the work surface, may be applied via a palm-pad at the said one end of the frame and/or a hand-grip provided on a portion of the second part of the frame that in use of the tool is substantially parallel to the work surface.

A strut may extend between the two ends of the frame for strengthening purposes, and the frame may be mounted at its said other end on a pair of wheels that are spaced equally either side of the frame at that end. The wheels  
5 may be mounted to turn on a common axle with the frame secured centrally of the axle.

The blade or other element may be provided integrally with the tool, but provision is preferably made at the  
10 said one end for it to be detachably clamped to the frame.

A hand-held tool in accordance with the present invention will now be described, by way of example, with reference  
15 to the accompanying drawings, in which:

Figures 1 and 2 show the tool in side elevation and plan respectively, fitted with a scraper blade; and

20 Figures 3 to 7 illustrate various forms of tool-element that may be fitted to the tool of Figures 1 and 2 in place of the scraper blade.

The tool to be described is primarily for use in scraping  
25 a surface, and in particular for scraping wall-paper from walls or ceilings in preparation for re-decoration.

Referring to Figures 1 and 2, the tool in this case has an elongate frame 1 of metal-tube or plastics, that  
30 carries a wide, plain-scraper blade 2 at its front end 3. The blade 2 is firmly clamped to the frame 1 using a turn-screw 4 and projects forwardly from the front end 3 in line with the frame 1 there.

35 The frame 1 is of a serpentine configuration along its length from the front end 3 and is mounted at its rear end 5 on a pair of spaced wheels 6. The wheels 6 turn on

an axle 7, and the rear end 5 of the frame 1 is secured centrally of the axle 7 so that with both wheels 6 resting on a flat horizontal surface the frame 1 stands stably upright with the blade 2 in contact with the surface. More particularly, with the wheels 6 standing on the surface, the blade 2 is held at a constant, optimum angle of inclination for scraping the surface.

Two hand-grips 8 and 9 are formed on the frame 1, the hand-grip 8 being formed on the rear end 5 where the serpentine frame 1 rises steeply above the wheels 6 before looping over to begin a two-stage decline to the front end 3. The hand-grip 9 on the other hand is located on a substantially-horizontal portion of the frame 1 intermediate the two stages of decline. By holding the tool with the two hands gripping the grips 8 and 9, pressure can readily be applied both to urge the blade 2 and wheels 6 firmly onto the surface to be scraped, and forwardly along it for scraping by the blade 2.

The frame 1 is strengthened by a strut 10 running between the front and rear ends 3 and 5, and a palm-pad 11 stands up from the front end 3. The palm-pad 11 can be used instead of the grip 9, for applying increased pressure urging the blade 2 onto the work surface.

The tool facilitates scraping of the work surface whether this is horizontal, vertical or inclined. The wheel-mounting of the frame 1 ensures that the blade 2 is held throughout at the correct angle to the work surface and with its cutting edge flat on that surface across the blade-width; the dangers of it digging into the surface are thereby minimised. Furthermore, there is full, two-hand control of the pressure with which the blade 2 contacts the surface and of its tracking along that surface.

The tool is particularly useful for scraping ceilings, and can be of a light enough construction to enable one-hand operation where this is appropriate.

5 Provision may be made for adjusting the angle of the blade 2 to the work surface. This may be achieved simply by providing for an adjustable telescopic coupling between the rear end 5 of the frame 1 and a central upstanding spigot on the wheel-axle 7. Adjustment of the  
10 coupling enables the height of the rear end 5 above the work surface to be varied to achieve the desired scraper angle.

In the tool described, the blade 2 is detachable, and  
15 whereas this is desirable to enable replacement, it may be an integral part of the tool. On the other hand, with the tool described, the blade 2 may be replaced by other forms of blade or tool-element to enable other surface-preparation and/or finishing operations to be performed.  
20 In this respect, tool-elements having the forms illustrated in Figures 3 to 7 may be used in place of the scraper blade 2.

The blade of Figure 3 is for use in scraping surfaces  
25 such as table tops and floors where the tip 13 of the blade digs into the surface, whereas the blade of Figure 4 is for use in lifting tiles, for example of plastics or cork, from floors, and in this respect has a sharp nose portion 14 for sliding under the tiles. The blades of  
30 Figures 5 and 6 have long and short noses 15 and 16 respectively, the long nose 15 being suitable for removing comparatively-light wall-coverings, and the short nose 16 for heavier duty in, for example, the removal of tile cement and plaster.

35 The tool-element of Figure 7 is for use in roughening the surface of, for example, wallpaper to facilitate the

soaking up of adhesive, or smooth plaster to facilitate the adhesion of tiles. The element in this case involves six discs 17 mounted on a common rotational axis and spaced some 10 mm apart, to roll on the work surface so as to roughen it as the tool is pushed along.



**Claims:**

1. A hand-held tool for use in an operation of surface-preparation and/or -finishing, wherein an elongate frame for carrying at one end a blade or other element for effecting said operation, is mounted at its other end on one or more wheels or rollers such that by applying hand pressure to the frame to urge the one or more wheels or rollers onto a work surface and to run along that surface, the blade or other element carried is urged against and along said surface at a substantially constant angle.
2. A hand-held tool according to Claim 1 wherein the frame is of metal-tube or plastics.
3. A hand-held tool according to Claim 1 or Claim 2 wherein the frame has a first part to extend upwardly from the one or more wheels or rollers at the said other end and lead into a second part which extends generally downwardly from the first part to said one end.
4. A hand-held tool according to Claim 3 wherein the frame is strengthened by a strut extending between its two ends.
5. A hand-held tool according to Claim 3 or Claim 4 wherein a hand-grip is provided on said first part.
6. A hand-held tool according to any one of Claims 3 to 5 wherein a hand-grip is provided on a portion of the second part of the frame that in use of the tool is substantially parallel to the work surface.

7. A hand-held tool according to any one of Claims 1 to 6 wherein a palm-pad is provided at said one end for use in applying pressure by hand urging the blade or other element onto the work surface.
8. A hand-held tool according to any one of Claims 1 to 7 wherein the frame is mounted at said other end on a pair of wheels that are spaced equally either side of the frame at that end.
9. A hand-held tool according to Claim 8 wherein the wheels are mounted to turn on a common axle with the frame secured centrally of the axle.
10. A hand-held tool according to any one of Claims 1 to 9 wherein provision is made at said one end of the frame for detachably clamping the blade or other element to the frame to be carried thereby.
11. A hand-held tool according to any one of Claims 1 to 9 carrying a plain-scraper blade, or carrying a tool-element substantially as hereinbefore described with reference to any one of Figures 3 to 7 of the accompanying drawings.
12. A hand-held tool substantially as hereinbefore described with reference to Figures 1 and 2 of the accompanying drawings.
13. A hand-held tool according to Claim 12 carrying a plain-scraper blade substantially as hereinbefore described with reference to Figures 1 and 2 of the accompanying drawings, or carrying a tool-element substantially as hereinbefore described with reference to any one of Figures 3 to 7 of the accompanying drawings.

**Patents Act 1977**  
**Examiner's report to the Comptroller under Section 17**  
**(The Search report)**

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**Relevant Technical Fields**

- (i) UK Cl (Ed.M) B4B (B63B)  
(ii) Int Cl (Ed.5) A47L (13/08); B44D (3/16)

Search Examiner  
H F YOUNG

Date of completion of Search  
20 JUNE 1994

**Databases (see below)**

(i) UK Patent Office collections of GB, EP, WO and US patent specifications.

Documents considered relevant following a search in respect of Claims :-  
1-13

(ii)

**Categories of documents**

- X:** Document indicating lack of novelty or of inventive step.      **P:** Document published on or after the declared priority date but before the filing date of the present application.  
**Y:** Document indicating lack of inventive step if combined with one or more other documents of the same category.      **E:** Patent document published on or after, but with priority date earlier than, the filing date of the present application.  
**A:** Document indicating technological background and/or state of the art.      **&:** Member of the same patent family; corresponding document.

Category	Identity of document and relevant passages	Relevant to claim(s)
X	GB 2248207 A (DIVILLY) see Figures 1 and 2	1-3,8,9
X	GB 2011820 A (THIDT) see Figures 1, 5, 7	1-7
X	GB 887742 (SILVESTER) see Figures 1 and 2	1,3-5,10

**Databases:** The UK Patent Office database comprises classified collections of GB, EP, WO and US patent specifications as outlined periodically in the Official Journal (Patents). The on-line databases considered for search are also listed periodically in the Official Journal (Patents).